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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,291	08/18/2003	Shoichiro Yasunami	Q77024	2020
23373	7590	12/16/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			CHU, JOHN S Y	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/642,291

Applicant(s)

YASUNAMI

Examiner

John S. Chu

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 4 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/18/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1752

**DETAILED ACTION**

This Office action is in response to the application filed August 18, 2003

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 6, 8-14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by SHIOTA et al 6,190,833.

The claimed invention is drawn to the following:

Art Unit: 1752

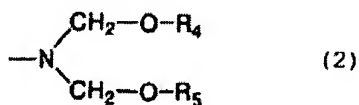
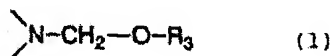
1. A negative resist composition comprising:

(A) an alkali-soluble resin;

(B-1) a cross-linking agent capable of cross-linking with the alkali-soluble resin (A) by the action of an acid, in which the cross-linking agent is a phenol compound containing: in the molecule one or more benzene rings; and at least two cross-linking groups bonded to any of the benzene rings, the cross-linking group being a group selected from the group consisting of a hydroxymethyl group, an alkoxymethyl group and an acyloxymethyl group;

(B-2) a cross-linking agent capable of cross-linking with the alkali-soluble resin (A) by the action of an acid, in which the cross-linking agent contains at least two groups selected from the groups represented by the following formula (1) and represented by the following formula (2); and

(C) a compound capable of generating an acid upon irradiation with an actinic ray or radiation:



wherein  $R_3$  represents a hydrogen atom, an alkyl group, or an

alkylcarbonyl group;  $R_4$  and  $R_5$  each represent a hydrogen atom, an alkyl group or an alkylcarbonyl group.

SHIOTA et al discloses a radiation sensitive resin composition comprising a phenol resin, an amino resin, a compound having two or more crosslinking groups in a molecule, and a

Art Unit: 1752

halomethyl-1,3,5-triazine compound, see column 3, lines 1-10 and claim 1 in column 25, line 54 – column 27, line 10. The specific ingredients as recited are in column 22, lines 1-63, wherein A1 – A4 in lines 3-15 disclose the claimed alkali soluble resin, while B1- B3 in column 22, lines 16-25 meet the claimed ingredient (B-2) and C1-C3 meet claimed ingredient (B-1) recited above.

Example 6 of Table 1 in column 23/24, lines 1-18 anticipates the claimed invention wherein each of the claimed ingredients to an alkali-soluble resin, a crosslinking agent (B-1) and (B-2) and a compound which generates an acid (C) are met by Example 6 comprising A3, B2 and C2. These ingredients are defined in column 22, lines 1-63.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5,6,and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over SHIOTA et al.

The claimed invention has been recited above and is included by reference.

SHIOTA et al has been discussed wherein Example 6 anticipates the claimed invention in claims 1, 2, 4, 6, 8-14. Claims 3 and 5 disclose the addition of a nitrogen-containing base and a surfactant, respectively.

SHIOTA et al lacks a working example having a nitrogen-containing base and a surfactant in the composition, however SHIOTA et al discloses in column 17, lines 1-26 the use

Art Unit: 1752

of antifoaming agents (in other words a surfactant) and basic dyes which meet the claimed nitrogen-containing basic compounds.

Thus it would have been *prima facie* obvious to one of ordinary skill in the art of photoresist compositions to add a surfactant and a nitrogen-containing basic compound to the working examples in SHIOTA et al as suggested and reasonably expect to have a composition which coats smoothly and improves storage stability due to the presence of an antifoaming agent and a basic dye, respectively. These components are known and conventional to the art to provide expected property characteristics to the composition as stated above.

5. Claims 4 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art references disclose the claimed repeating units in a resin recited in claim 4 used in a negative working composition comprising the claimed ingredients (A), (B-1), (B-2) and (C).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. FISHER 5,538,820, HANABATA and UENISHI et al '783 and '512 are cited of interest as disclosing patents having crosslinking agents in the composition.

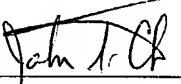
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for the USPTO is (703) 872-9306.

Art Unit: 1752

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
\_\_\_\_\_  
John S. Chu  
Primary Examiner, Group 1700

J.Chu  
December 13, 2004